

ABSTRACT

The invention provides a scatter-free below 200 nm wavelength transmitting optical fluoride lithography crystal for use with below 200nm laser light. The invention includes making below 200 nm wavelength transmitting optical fluoride lithography crystals with a calcium fluoride feedstock in a low-chlorine graphite optical fluoride crystal crucible having a chlorine content concentration less than 0.3 ppm Cl by weight. The method includes melting calcium fluoride feedstock in the < 0.3 ppm Cl graphite crucible to form a low-chlorine calcium fluoride crystal from the melt in the crucible to provide a grown calcium fluoride scatter-free crystal having a chlorine concentration less than 0.25 Cl by weight.